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From: Jennifer Pilcher Legal Assistant to Wayne Bailey	No. of Pages Including Cover Sheet: **29**

Message:

Enclosed herewith:

- Transmittal Document; and
- Appeal Brief.

Re: Application No. **09/888,473**
Attorney Docket No: **AUS920010398US1**

Date: Monday, August 15, 2005

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: **Jones et al.**

Serial No.: **09/888,473**

Filed: **June 25, 2001**

For: **Method and Apparatus for Wide-Spread Distribution of Electronic Content in a Peer to Peer Fashion**

§ Group Art Unit: **2154**
§
§ Examiner: **Martin, Nicholas A.**
§
§ Attorney Docket No.: **AUS920010398US1**
§

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By: Jennifer Pilcher
Jennifer Pilcher

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Sir:
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- Appeal Brief (37 C.F.R. 41.37).

A fee of $500.00 is required for filing an Appeal Brief. Please charge this fee to IBM Corporation Deposit Account No. 09-0447. No additional fees are believed to be necessary. If, however, any additional fees are required, I authorize the Commissioner to charge these fees which may be required to IBM Corporation Deposit Account No. 09-0447. No extension of time is believed to be necessary. If, however, an extension of time is required, the extension is requested, and I authorize the Commissioner to charge any fees for this extension to IBM Corporation Deposit Account No. 09-0447.

Respectfully submitted,

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By: Jennifer Bilcher
Jennifer Bilcher

APPEAL BRIEF (37 C.F.R. 41.37)

This brief is in furtherance of the Notice of Appeal, filed in this case on June 13, 2005.

The fees required under § 41.20(B)(2), and any required petition for extension of time for filing this brief and fees therefore, are dealt with in the accompanying TRANSMITTAL OF APPEAL BRIEF.

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REAL PARTY IN INTEREST

The real party in interest in this appeal is the following party: International Business Machines Corporation.

RELATED APPEALS AND INTERFERENCES

With respect to other appeals or interferences that will directly affect, or be directly affected by, or have a bearing on the Board's decision in the pending appeal, there are no such appeals or interferences.

STATUS OF CLAIMS

A. TOTAL NUMBER OF CLAIMS IN APPLICATION

Claims in the application are: 1-19

B. STATUS OF ALL THE CLAIMS IN APPLICATION

1. Claims canceled: none
2. Claims withdrawn from consideration but not canceled: none
3. Claims pending: 1-19
4. Claims allowed: none
5. Claims rejected: 1-19
6. Claims objected to: none

C. CLAIMS ON APPEAL

The claims on appeal are: 1-19

STATUS OF AMENDMENTS

No amendment after final was filed for this case.

SUMMARY OF CLAIMED SUBJECT MATTER

A. CLAIM 1 - INDEPENDENT

Claim 1 is generally directed to an improved technique for eliminating bottlenecks that arise when downloading content from a server. A peer-to-peer offloading technique is provided for offloading of demands on master servers to other clients which are downloading the same content.

Specifically, Claim 1 is directed to a method for distributing information in a computer network. An electronic file is divided into a plurality of pieces. A request for a file piece is received from a first client machine, and the requested file piece is downloaded to this first client machine. A request for this same file piece is received from a second client machine. If the file piece requested from the second client machine has previously been downloaded to the first client machine responsive to the request for the file piece from the first client machine, the request of the second client machine is redirected to the first client machine. Redirecting the request to the first client machine advantageously allows for redirecting work away from the machine that originally provided the file piece by instead sending the work request to the first client, such that the first client can satisfy the request of the second client machine (Specification page 10, line 11 – page 11, line 13; Figure 4, all steps).

B. CLAIM 7 - INDEPENDENT

Claim 7 is directed to a method for distributing information in a computer network, including steps of (i) requesting one of a plurality of pieces of an electronic file, wherein the electronic file is stored in a server, (ii) receiving the requested file piece from the server, (iii) receiving a request for said file piece from a client machine, wherein the request is redirected from the server, and (iv) sending said file piece to said client machine. This method is from the perspective of a machine different from the server and the client machine, where this different machine requests and receives content (the requested file piece), and then receives a request for this same file piece, *the request being redirected from the server which previously supplied the content*. This second redirected request is then fulfilled. Thus, Claim 7 advantageously provides that a machine that has previously requested and received content (a file piece) is itself able to

satisfy a subsequent request for this same content, where the request for the content has been redirected by the server which originally provided the content – thus offloading work (requests for a file piece) that is directed to the server (Specification page 10, line 11 – page 11, line 13; Figure 4, all steps). The single cited reference used in rejecting this claim does not teach that a server that itself provided content also redirects requests for this same content.

C. CLAIM 8 - INDEPENDENT

Claim 8 is directed to a method for obtaining distributed information in a computer network. One of a plurality of pieces of an electronic file is requested, wherein the electronic file is stored in a server. The requested file piece is received from a client machine containing a copy of the file piece, the copy of the file piece on the client machine being the result of a previous request for the file piece from the client machine to the server and receipt of the file piece from the server to the client machine (Specification page 10, line 11 – page 11, line 13; Figure 4, all steps). This claim advantageously provides an offload of server workload, as even though a request is made for a part of a file that is stored on the server, the requested file piece is instead received from a client machine that had previously requested and received the file piece from the server.

D. CLAIM 9 – INDEPENDENT

Claim 9 is a program product claim of similar scope to Claim 1, and the summary of Claim 1 given above is equally applicable to Claim 9, and is thus hereby incorporated by reference.

E. CLAIM 15 – INDEPENDENT

Claim 15 is a program product claim of similar scope to Claim 7, and the summary of Claim 7 given above is equally applicable to Claim 15, and is thus hereby incorporated by reference.

F. CLAIM 16 – INDEPENDENT

Claim 16 is a program product claim of similar scope to Claim 8, and the summary of Claim 8 given above is equally applicable to Claim 16, and is thus hereby incorporated by reference.

G. CLAIM 17 – INDEPENDENT

Claim 17 is a system claim of similar scope to Claim 1, and the summary of Claim 1 given above is equally applicable to Claim 17, and is thus hereby incorporated by reference.

H. CLAIM 18 – INDEPENDENT

Claim 18 is a system claim of similar scope to Claim 7, and the summary of Claim 7 given above is equally applicable to Claim 18, and is thus hereby incorporated by reference.

I. CLAIM 19 – INDEPENDENT

Claim 19 is a system claim of similar scope to Claim 8, and the summary of Claim 8 given above is equally applicable to Claim 19, and is thus hereby incorporated by reference.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. GROUND OF REJECTION 1 (Claims 7-8, 15-16 and 18-19)

Claims 7-8, 15-16 and 18-19 stand rejected under 35 U.S.C. § 102(b) as being anticipated by "Technology Overview of Mojo Nation", Mojo Nation, 'Online', XP002177454 (hereinafter referred to as XP).

B. GROUND OF REJECTION 2 (Claims 1-3, 5-6, 9-11, 13-14 and 17)

Claims 1-3, 5-6, 9-11, 13-14 and 17 stand rejected under 35 U.S.C. § 103 as being unpatentable over XP in view of Hartsell et al. (hereinafter referred to as Hartsell), US 2002/0174227.

C. GROUND OF REJECTION 3 (Claims 4 and 12)

Claims 4 and 12 stand rejected under 35 U.S.C. § 103 as being unpatentable over XP in view of Hartsell, as applied to Claims 1-3 and 9-11 above, and further in view of "Inverse: Designing an Interactive Universe Architecture for Scalability and Extensibility", Singhal et al. XP010245516.

ARGUMENT

A. GROUND OF REJECTION 1 (Claims 7-8, 15-16 and 18-19)

A.1. Claims 7, 15 and 18

Generally speaking, the present invention is directed to an improved technique for distributing information in a computer network. An electronic file is divided into a plurality of pieces. The first client machine to request a given file piece receives such file piece from the server. If another client such as a second client later requests this same file piece, *the request for such file piece is redirected to the first client* such that the first client acts as a peer-to-peer server and provides the requested file piece to the other client, thus off-loading work from the primary/initial server. While the cited XP reference describes a peer-to-peer network environment with similar objectives of off-loading work from a primary server, the techniques used to achieve such server-work off-loading are substantially different. Per the teachings of XP, a swarm distribution technique is provided where a plurality of middlemen brokers are located between a requesting client and the network to manage a bartering system where clients who contribute the most resources to the peer-to-peer environment receive a higher priority for requested resources. These general distinctions will now be further described with respect to the specific claimed features of the present invention.

With respect to Claim 7, such claim is directed to a method for distributing information in a computer network wherein a requested file piece is received from a server, and *a request for this same file piece is received from a client machine as redirected by a server* such that the file piece can be sent to the client machine by a peer-to-peer server in lieu of the master server. Specifically, Claim 7 recites two receiving steps: (1) receiving the requested file piece from the server, and (2) receiving a request for said file piece from a client machine, wherein the request is redirected from the server. The file piece is then sent to the client machine. Thus, as can be seen, a subsequent request for the same file piece is redirected from the server, and this file piece is then sent to the requesting client machine, thereby advantageously eliminating any need for the server (where the electronic file was stored) to fulfill such request.

In rejecting Claim 7, the Examiner cites XP page 1, paragraph 7, page 2, paragraph 7 and page 3 paragraphs 1-2 as teaching these claimed steps. Appellants show that the cited passage at

page 1, paragraph 7 generally discusses a client-server distributed system where a client sends a request to a server, and the server responds. This passage makes mention of agents who perform both client and server roles. The details of requesting, receiving and sending of requests and content - including the specifically reciting details of requesting, receiving, and sending of requests and content as explicitly recited in Claim 7 - are not described in the XP page 1 citation.

The cited passage at XP page 2, paragraph 7 discusses breaking a distributed file into fragments for storage and retrieval such that many agents may work in parallel on each data transfer, where each agent contributes effort to each task *based upon available bandwidth*. This general comment of many agents working in parallel, where each agent contributes effort to the task based upon available bandwidth, does not teach the specific details of requesting, receiving, and sending of requests and content as expressly recited in Claim 7.

The cited passage at page 3, paragraphs 1-2 describes how information is published through a broker, where information is broken into pieces and stored on various block servers based upon prices of storage and range of block IDs. These blocks are 'then shared between peers'. This general statement of block sharing among peers does not teach the specific details of requesting, receiving, and sending of requests and content as expressly recited in Claim 7.

Importantly, none of these cited passages teach that a subsequent request for a file piece is redirected by the server for which the electronic file is stored. Claim 7 expressly recites "receiving a request for said file piece from a client machine" ('said file piece' being defined in the claim to be a file piece requested of and received from the server), wherein *the request is redirected from the server.* In fact, the cited reference does not teach that servers, which have requested files stored thereon, provide any type of request redirection. Instead, the cited reference teaches use of middleman brokers to facilitate data retrieval based upon Mojo currency (XP page 2, paragraph 1; page 2, paragraph 6, page 3, paragraphs 5 and 6). This can be seen from the following passage from the cited reference, on page 4 under the heading "Downloading":

> File retrieval on Mojo Nation begins with a content search. At the search page, the user can select from a growing number of content types, and each of the content types presents its own array of type fields to delineate the user's search (that is, the user could search for a certain "bitrate" among the "audio" content types, but not others). After the

user provides his search criteria and clicks "search," the Broker goes back to work.

First the Broker locates every content tracker available on the system, then sorts them -- first by the price each asks to perform a lookup, and further by the tracker's reputations. Then the Broker pays one or more content trackers to hunt their respective databases for the user's search string. If the content tracker can match a filename or description to that string, the tracker returns all the human-readable information it has about that file to the user -- most crucial is the dinode (without which the file could not be reassembled), while content description, publisher pseudonym and other user-readable information might also be returned. The user can then attempt to retrieve the file.

When the user clicks "download," his Broker first examines the list of the block servers from which the user has purchased blocks before, and tries to use those block servers. Otherwise, the broker asks the metatracker to find block servers whose range of carried block IDs includes those which make up chunks of the requested file (as the amount of data in the system grows, a block server will have to narrow the range of blocks it carries, depending on the local disk space). If every chunk of the file -- any four of the eight blocks into which a chunk is broken are necessary for rebuilding the chunk -- can be reassembled, the file can be rebuilt according to the sharemap, and passed to the user.

By engaging multiple agents in a single download tasks the Mojo Nation technology is able to deliver a high-throughput file transfer. This aggregation of low-bandwidth agents together into a single swarm is one of the key features of our content distribution system. Many hands make for light work...

As can be seen, the first action when a user attempts to retrieve a file is to check previously used block servers and attempt to download from them. Failing that, a metatracker is asked to find block servers having portions of the requested file. There is no teaching of a *client request* for a file piece that *gets redirected by the server for which the electronic file is stored.*

In summary, the passages cited by the Examiner do not teach two requests for the same file piece ("requesting one of a plurality of pieces of an electronic file", "receiving the requested file piece", and "receiving a request for said file piece from a client machine"), where one of these requests is *redirected from the server* (where the electronic file is stored thereon). Thus, as every element of the claimed invention is not identically shown in a single reference, it is shown that Claim 7 is not anticipated by the cited reference.

Appellants show error in the rejection of Claims 15 and 18 for similar reasons to those given above with respect to Claim 7

A.2. Claims 8 and 19

With respect to Claims 8 and 19, such claims recite that the copy of the file piece on the client machine – which is subsequently received from the client machine per the second step of Claim 8 – is the result of a previous request from this same client machine to the server. For similar reasons to those described above with respect to Claim 7, the cited reference does not teach such a client machine that itself requests the file piece from the server, *and then itself* fulfills a request for this same file piece that is stored on the server. While the cited reference may describe a plurality of content servers that provide content, there is no teaching or other suggestion that these content servers themselves had previously requested and received content from a server, and are now provided such content in fulfillment of subsequent requests for this same content stored on the server. Thus, Claims 8 and 19 are not anticipated by the cited reference as every claimed element is not identically shown in a single reference.

This claim advantageously provides an offload of server workload, as even though a request is made for a part of a file (file piece) that is stored on the server, the requested file piece is instead received from a client machine that had previously requested and received the file piece from the server – thereby offloading server workload.

A.3. Claim 16

Appellants initially show error in the rejection of Claim 16 for similar reasons to those given above with respect to Claims 8 and 19.

Further with respect to Claim 16, the cited reference does not teach a single unitary computer program product that comprises the two recited "instructions for" elements of requesting and receiving. In rejecting Claim 16, the Examiner notes that this unitary computer program product is taught at XP Page 1, paragraph 7, Page 2, paragraph 7 and Page 3, paragraph 2. The cited passage on page 1 generally describes the operation of a client-server distributed system, and makes no mention of a unitary computer program product (and thus makes no mention of a unitary computer program product that comprises the two expressly recited "instructions for" features). The cited passage on page 2 describes the operation of many agents

working in parallel, and makes no mention of a unitary computer program product (and thus makes no mention of a unitary computer program product that comprises the two expressly recited "instructions for" features). The cited passage on page 3 generally describes how block servers are chosen for storing data blocks thereon, and makes no mention of a unitary computer program product (and thus makes no mention of a unitary computer program product that comprises the two expressly recited "instructions for" features). Thus, as every element of the claimed invention is not identically shown in a single reference – and in particular there is no teaching of a unitary computer program product comprising instructions for requesting one of a plurality of pieces of an electronic file, wherein the electronic file is stored in a server; and instructions for receiving the requested file piece from a client machine containing a copy of said file piece – it is further shown that Claim 16 is not anticipated by the cited reference.

B. GROUND OF REJECTION 2 (Claims 1-3, 5-6, 9-11, 13-14 and 17)

B.1. Claims 1-3, 9-11 and 17

With respect to Claim 1, Appellants urge that none of the cited references teach or suggest *receiving two distinct requests for the same file piece*, with *different corresponding actions associated with each individual request*. Claim 1 recites receiving a request for a file piece from a first client machine and downloading the requested file piece to the first client machine. Claim 1 goes on to recite a step of receiving a request for this same file piece from a second client machine (i.e. another request for the same file piece) and *redirecting the request to the first client machine* (the first client machine being the one which also requested the file piece). None of the cited references teach/suggest such request/redirect co-action with respect to a first client machine. The passage cited as teaching the claimed redirection of the request (Hartsell Page 37, paragraph [0303]) does *not* teach or suggest that *the request for a file piece is redirected to a machine which had itself requested the file piece*. Rather, it merely states that 'Alternatively, requests may be redirected to alternative systems or nodes". There is no teaching or suggestion that such alternative systems or nodes were themselves involved in a request for the same file piece. This can further be seen in that this cited Hartsell passage is with respect to connection requests, and not data/content requests as recited in Claim 1. There is no indication or other teaching/suggestion that this 'alternative system or node' previously requested this same connection, so even assuming arguendo that a connection request is the same as or equivalent to

a data/content request, the cited reference still does not teach or suggest that this alternative system or node itself requested the same connection. Claim 1 expressly recites that the request is redirected to the client machine *which itself* has requested the same content/data (the "file piece"). Thus, it is shown that a prima facie case of obviousness has not been established with respect to Claim 1, and thus Claim 1 has been erroneously rejected.

B.2. Claims 5 and 13

Appellants initially show error in the rejection of dependent Claim 5 (and similarly for Claim 13) for reasons given above with respect to Claim 1 (of which Claim 5 depends upon).

Further with respect to Claim 5 (and similarly for Claim 13), Appellants urge that none of the cited references teach or suggest the claimed feature of "sending a digest for a file piece *to each client machine which has received that file piece*" (emphasis added by Appellants). In rejecting Claim 5, the Examiner cites XP Page 4, paragraph 5 as teaching this claimed feature. Appellants urge that this passage generally discusses an encryption and authentication layer for encrypting and decrypting a text message using public-key cryptography, and ensuring authenticity of this text message by validating the sender's private key. The specific features recited in Claim 5 - specifically sending *a digest for a file piece* to each client machine which has received that file piece - are not taught/suggested by this cited passage. In addition, it should be noted that this XP cited passage describes encryption and authentication *between two parties*. Claim 5 expressly recites sending a digest *to each client machine which has received the file piece*. The cited passage does not teach or otherwise suggest this type of digest sending to each client which has received the file piece, but rather is merely directed to a two-party text message exchange. Thus, it is further shown that a prima facie case of obviousness has not been established by the Examiner with respect to Claim 5.

B.3. Claims 6 and 14

Appellants initially show error in the rejection of dependent Claim 6 (and similarly for Claim 14) for reasons given above with respect to Claim 1 (of which Claim 6 depends upon).

Further with respect to Claim 6 (and similarly for Claim 14), Appellants urge that none of the cited references teach or suggest the claimed feature of "receiving a message from a client, wherein the message indicates that a peer-to-peer server *has corrupted a file piece*". As can be

seen, this claimed step is with respect to a *corrupted file piece*, where a received message indicates such file piece corruption. In rejecting this claimed step, the Examiner cites XP Page 2, paragraph 2 and Page 4, paragraphs 5-6 as teaching this claimed step. The cited XP passage on page 2 describes a bartering system where digital tokens are used for peer-to-peer micropayment. This passage has nothing to do with corrupted file pieces, or messages pertaining to such corrupted file pieces, as expressly recited in Claim 6. The cited XP passage on page 4 also does not overcome this teaching/suggestion deficiency. There, XP discusses at Page 4, paragraph 5 an encryption and authentication layer for message exchange between two parties, and has nothing to do with corrupted file pieces, or messages pertaining to such corrupted file pieces, as expressly recited in Claim 6. The XP cited passage at Page 4, paragraph 6 describes a conversation layer that matches initiating messages with responding messages, in order to protect against replay vandalism in that only a single response to a message is processed. There is no teaching/suggestion that these messages *indicate any type of file piece corruption*, as expressly recited in Claim 6. Thus, it is further shown that the Examiner has failed to properly establish a prima facie showing of obviousness with respect to Claim 6, as all claimed elements are not taught or suggested by the cited references.

Still further with respect to Claim 6, none of the cited references teach or suggest the claimed step of "disconnecting the peer-to-peer server *responsible for corrupting said file piece*" (emphasis added by Appellants). In rejecting this step of Claim 6, the Examiner acknowledges that the cited XP reference does not teach this step, but alleges that the cited Hartsell reference teaches this step at Page 37, paragraph [0303]. Appellants have reviewed this passage thoroughly, and can find no mention of disconnecting a peer-to-peer server, nor the particular step of disconnecting the peer-to-peer server *responsible for corrupting the file piece*. Rather, it describes acceptance or rejection of a connection request. Rejecting a request for a connection does not teach or otherwise suggest a step of disconnecting as a connection was never made (as the request for the connection was rejected, and therefore no connection was ever made). Even assuming arguendo that rejecting a request for a connection is equivalent to an actual disconnecting of a client, this rejected request is not with respect to a server responsible for corrupting the file piece, as expressly recited in Claim 6. Rather, this passage describes the defining of a policy for marginal connection requests during periods of system congestion. Quite simply, Hartsell's policy definitions regarding how to deal with *system congestion* does not in

any way relate to *corrupted files*, and rejecting a request for a connection (as described by Hartsell) does not teach or otherwise suggest disconnecting a server responsible for corrupting a file piece. Thus, it is shown that Claim 6 has additional claimed features not taught or suggested by the cited references, and thus has been erroneously rejected.

C. GROUND OF REJECTION 3 (Claims 4 and 12)

C.1. Claims 4 and 12

Appellants initially traverse the rejection of Claims 4 and 12 for reasons given above with respect to Claims 1 and 9, of which Claims 4 and 12 respectively depend upon.

Further with respect to Claims 4 (and similarly for Claim 12), Appellants urge that none of the cited references teach or suggest the claimed step of "redirecting said request *to a second peer-to-peer server containing a copy of said file piece*" (emphasis added by Appellants). In rejecting this claimed step, the Examiner states that Hartsell teaches such redirection at Page 37, paragraph [0303]. Appellants show two-fold error in such assertion. First, the request being redirected by Hartsell is a network connection request, whereas Claim 4 expressly recites that the request is with respect to a file piece. Perhaps more importantly, the cited passage merely states that the connection request is "redirected to alternative systems or nodes". There is no teaching/suggestion that these alternative systems or nodes contain a copy of a requested file piece. Rather, these are merely stated to be 'alternative' systems or nodes with no further qualification. Thus, Claim 4 (and similarly for Claim 12) is further shown to not be obvious in view of the cited references as there is at least one additional claimed feature not taught or suggested by the cited references.

Still further with respect to Claim 4 (and similarly for Claim 12), Appellants show that none of the cited references teach or suggest the claimed step of "receiving a request for a file piece stored in a first peer-to-peer server *which is no longer connected to the computer network*" (emphasis added by Appellants). In rejecting Claim 4, the Examiner states this receiving step is taught by the cited Singhal reference at Page 66, Column 2, paragraph 2-3. Appellants urge that this passage teaches the sending and receipt of heartbeat signals (called keepalive requests) to determine if a particular client is responsive to such heartbeat signal, and if not, the client is unregistered. This is different from what is recited in the receiving step of Claim 4 for at least two reasons. First, these keepalive requests as taught by Singhal are not 'a request for a file piece

stored in a peer-to-peer server', but rather are keepalive or heartbeat requests. Second, there is no teaching that a peer-to-peer server, for which a request for a file piece stored thereon is received, is no longer connected to the computer network. The cited passage merely states that a non-responsive client is unregistered. There is no teaching or other suggestion of processing of requests for files stored on such unregistered clients. Claim 4 expressly recites *receiving a request for a file piece stored in a first peer-to-peer server which is no longer connected to the computer network*". Thus, Claim 4 (and similarly for Claim 12) is still further shown to not be obvious as there are further claimed features not taught or suggested by the cited references.

In summary, while the teachings of the primary XP reference and the presently claimed inventions are both generally directly to providing content in a peer-to-peer environment, none of the cited references teach or otherwise suggest the *redirection of client requests for content to other clients which have previously requested the same content* – either by the same server which originally served up the content or by any other means.

In conclusion, Appellants have shown that numerous specific claimed features are not taught or otherwise suggested by any of the cited references, and thus urge that Claims 1-19 have been erroneously rejected. Accordingly, Appellants respectfully request that the Board reverse the rejection of Claims 1-19.

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CLAIMS APPENDIX

The text of the claims involved in the appeal are:

1. A method for distributing information in a computer network, the method comprising:

dividing an electronic file into a plurality of pieces;

receiving a request for a file piece from a first client machine;

downloading the requested file piece to the first client machine;

receiving a request for said file piece from a second client machine; and

if said file piece requested from the second client machine has previously been downloaded to the first client machine responsive to the request for said file piece from the first client machine, redirecting the request of the second client machine to the first client machine.

2. The method according to claim 1, further comprising:

downloading all file pieces to a plurality of client machines, wherein the client machines function as peer-to-peer servers for other client machines requesting said file pieces.

3. The method according to claim 2, wherein each peer-to-peer server stores a unique file piece.

4. The method according to claim 2, further comprising:

receiving a request for a file piece stored in a first peer-to-peer server which is no longer connected to the computer network;

redirecting said request to a second peer-to-peer server containing a copy of said file piece; and

removing the first peer-to-peer server from a list of available peer-to-peer servers.

5. The method according to claim 2, further comprising:

sending a digest for a file piece to each client machine which has received that file piece.

6. The method according to claim 5, further comprising:

receiving a message from a client, wherein the message indicates that a peer-to-peer server has corrupted a file piece;

disconnecting the peer-to-peer server responsible for corrupting said file piece; and

retransmitting said file piece to said client, wherein the retransmitted file piece is free of any corrupting content.

7. A method for distributing information in a computer network, the method comprising:

requesting one of a plurality of pieces of an electronic file, wherein the electronic file is stored in a server;

receiving the requested file piece from the server;

receiving a request for said file piece from a client machine, wherein the request is redirected from the server; and

sending said file piece to said client machine.

8. A method for obtaining distributed information in a computer network, the method comprising:

requesting one of a plurality of pieces of an electronic file, wherein the electronic file is stored in a server;

receiving the requested file piece from a client machine containing a copy of said file piece, the copy of said file piece on the client machine being the result of a previous request for the file piece from the client machine to the server and receipt of the file piece from the server to the client machine.

9. A computer program product in a computer readable medium for use in a data processing system, for distributing information in a computer network, the computer program product comprising:

instructions for dividing an electronic file into a plurality of pieces;

instructions for receiving a request for a file piece from a first client machine;

instructions for downloading the requested file piece to the first client machine;

instructions for receiving a request for said file piece from a second client machine; and

instructions for redirecting the request of the second client machine to the first client machine if said file piece requested from the second client machine has previously been downloaded to the first client machine responsive to the request for said file piece from the first client machine.

10. The computer program product according to claim 9, further comprising:

instructions for downloading all file pieces to a plurality of client machines, wherein the client machines function as peer-to-peer servers for other client machines requesting said file pieces.

11. The computer program product according to claim 10, wherein each peer-to-peer server stores a unique file piece.

12. The computer program product according to claim 10, further comprising:

instructions for receiving a request for a file piece stored in a first peer-to-peer server which is no longer connected to the computer network;

instructions for redirecting said request to a second peer-to-peer server containing a copy of said file piece; and

instructions for removing the first peer-to-peer server from a list of available peer-to-peer servers.

13. The computer program product according to claim 10, further comprising:

instructions for sending a digest for a file piece to each client machine which has received that file piece.

14. The computer program product according to claim 13, further comprising:

instructions for receiving a message from a client, wherein the message indicates that a peer-to-peer server has corrupted a file piece;

instructions for disconnecting the peer-to-peer server responsible for corrupting said file piece; and

instructions for retransmitting said file piece to said client, wherein the retransmitted file piece is free of any corrupting content.

15. A computer program product for distributing information in a computer network, the computer program product comprising:

instructions for requesting one of a plurality of pieces of an electronic file, wherein the electronic file is stored in a server;

instructions for receiving the requested file piece from the server;

instructions for receiving a request for said file piece from a client machine, wherein the request is redirected from the server; and

instructions for sending said file piece to said client machine.

16. A computer program product for obtaining distributed information in a computer network, the computer program product comprising:

instructions for requesting one of a plurality of pieces of an electronic file, wherein the electronic file is stored in a server;

instructions for receiving the requested file piece from a client machine containing a copy of said file piece.

17. A system for distributing information in a computer network, the system comprising:

a dividing component which divides an electronic file into a plurality of pieces;

a first receiver which receives a request for a file piece from a first client machine;

a communications component which downloads the requested file piece to the first client machine;

a second receiver which receives a request for said file piece from a second client machine; and

a redirecting component which redirects the request of the second client machine to the first client machine if said file piece requested from the second client machine has previously been downloaded to the first client machine responsive to the request for said file piece from the first client machine.

18. A system for distributing information in a computer network, the system comprising:

a first communications component which requests one of a plurality of pieces of an electronic file, wherein the electronic file is stored in a server;

a first receiver which receives the requested file piece from the server;

a second receiver which receives a request for said file piece from a client machine, wherein the request is redirected from the server; and

a second communications component which sends said file piece to said client machine.

19. A system for obtaining distributed information in a computer network, the system comprising:

a communications component requesting one of a plurality of pieces of an electronic file, wherein the electronic file is stored in a server;

a receiver which receives the requested file piece from a client machine containing a copy of said file piece, the copy of said file piece on the client machine being the result of a previous request for the file piece from the client machine to the server and receipt of the file piece from the server to the client machine.

EVIDENCE APPENDIX

There is no evidence to be presented.

RELATED PROCEEDINGS APPENDIX

There are no related proceedings.